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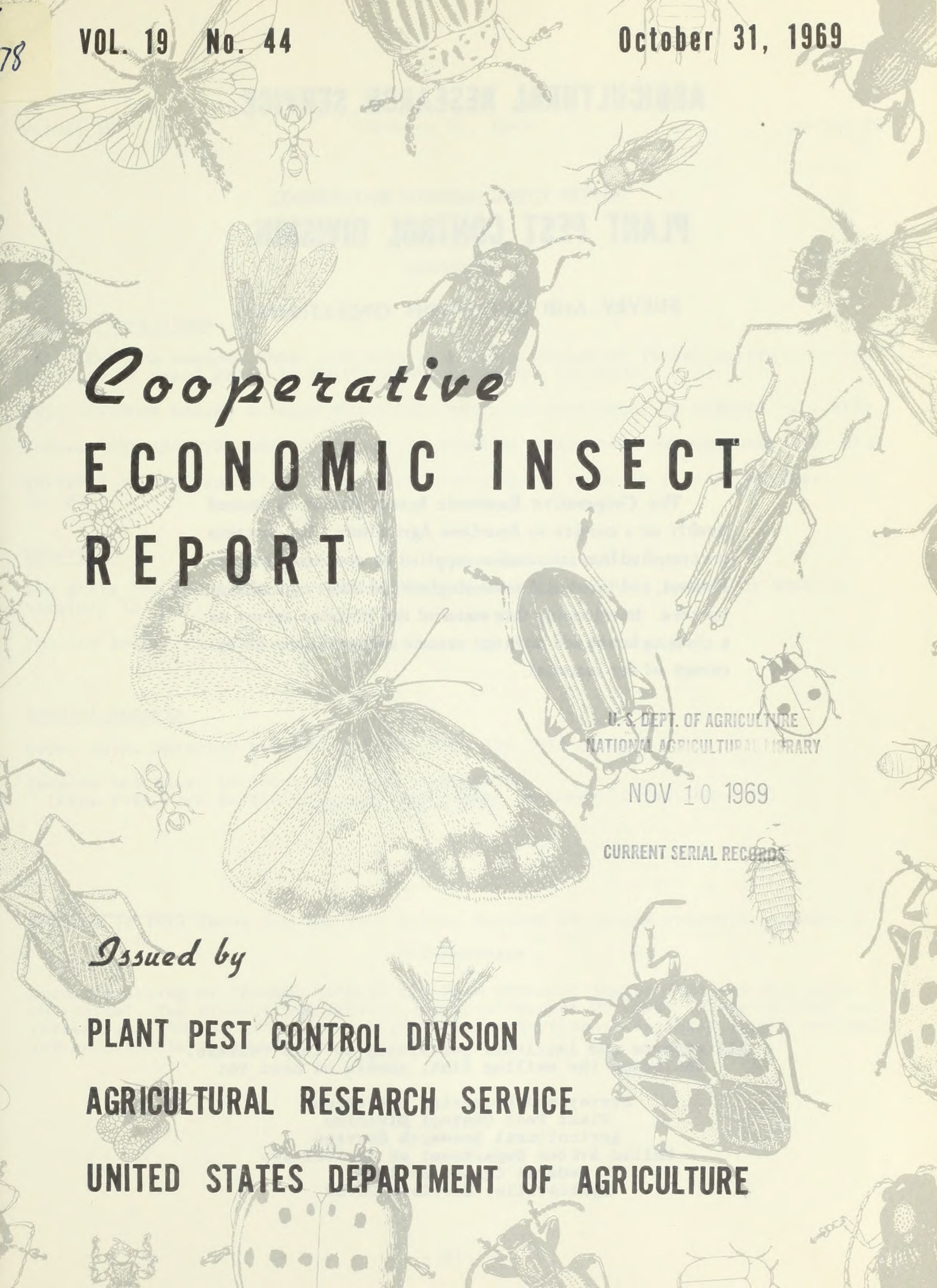

Cooperative ECONOMIC INSECT REPORT

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PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

Volume 19 October 31, 1969 Number 44

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

FALL ARMYWORM damaged wheat and oats in Rolling Plains of Texas. Larvae moderate to heavy on small grain in southwestern Oklahoma. (p. 813).

BEET ARMYWORM larvae damaged young sugarbeets in some areas of Arizona. (p. 815).

Several NUT INSECTS causing concern in Alabama, Tennessee, and Oklahoma. (p. 815).

WHITEFLY larvae and adults at highest levels in 18 years in Florida citrus. (p. 816).

Detection

New State records include a FLEA BEETLE in Oregon (p. 813), and GYPSY MOTH in Virginia (p. 817).

For new county records see page 818.

Special Reports

Gypsy Moth. Selected References 1967-1969. (pp. 819-820).

Insects Not Known to Occur in the United States
Large Flax Flea Beetle (*Aphthona euphorbiae* (Schrank)). (pp. 821-822).

Reports in this issue are for week ending October 24 unless otherwise indicated.

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Second printing of "Survey Methods for Some Economic Insects" is now available on request. The present publication replaces "Survey Methods" issued in 1953 and revised in 1955 and 1958. The new publication includes additional survey methods and refinements in techniques.

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WEATHER OF THE WEEK ENDING OCTOBER 27

HIGHLIGHTS: A cold wave brought record-breaking low temperatures to many northeastern localities on Thursday. Wet snow or cold rain fell from North Dakota to New England. Parts of northern New England received unusually heavy snow. Heavy rains delayed farm work in the Texas High Plains.

PRECIPITATION: Precipitation early in the week included light rains in the Far Northwest, snow in the lee of the Great Lakes and in New England, some heavy thundershowers in the Southeast. A Pacific storm off the Washington coast brought light rains to the Far Northwest. Northerly winds blowing across the Great Lakes picked up moisture and deposited it as snow in New York and New England. Montpelier, Vermont, received 7 inches of snow Wednesday forenoon. Rochester, Vermont, received 1 foot of snow on Wednesday and even greater amounts in the mountains. This was one of the heaviest October snows of record in New England. Heavy rains fell at midweek in the southern portions of Arizona and New Mexico and the nearby part of Texas. Over 3 inches of rain fell in the Lubbock, Texas, area. Additional rain later in the week brought the Lubbock total to more nearly 6 inches. Snow fell at the higher elevations in the southern Rockies reaching a depth of 2 inches at Las Vegas, New Mexico, Wednesday forenoon. Weekend precipitation included more rain in Texas, the Florida Peninsula, and the Northeast. A large area from California to South Dakota received no rain or only light sprinkles.

TEMPERATURE: Unseasonally warm weather prevailed from southern New England to the Gulf of Mexico early in the week. Boston, Massachusetts, registered 79° and Baltimore, Maryland, 87°, on Monday. Cold northerly winds brought polar air across the Great Lakes and pushed the freezing line steadily southward. By Thursday morning, temperatures in the 20's, or lower, were common from the Dakotas to New England and as far south as the Ohio River. Lexington, Kentucky, registered 28° Thursday morning. In much of the Northeast, the cold temperatures on Thursday morning were the lowest of record for so early in the season. Warming occurred in the West in the first half of the week. Billings, Montana, warmed to 73° Thursday afternoon before a cold front dropped the temperatures sharply. Parts of Montana remained below freezing from Friday morning to the end of the week. Milder weather returned to the East over the weekend. Although parts of the West were much warmer than the previous week, temperatures over most Western States averaged below normal. Much of the Northeast averaged 3° to 9° colder than normal. Above-normal weekly mean temperatures occurred along the Gulf of Mexico. (Summary supplied by Environmental Data Service, ESSA.)

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ASTER LEAFHOPPER (Macrosteles fascifrons) - OKLAHOMA - Light; scattered damage to small grains in Coal County. (Okla. Coop. Sur.). WISCONSIN - Light in Marquette County alfalfa. (Wis. Ins. Sur.).

CORN EARWORM (Heliothis zea) - WEST VIRGINIA - One larva per 100 sweeps of alfalfa in Mason County. (W. Va. Ins. Sur.). OKLAHOMA - Larvae ranged 5-10 per 10 sweeps of alfalfa in Grady County field. (Okla. Coop. Sur.).

GREENBUG (Schizaphis graminum) - TEXAS - Colony size ranged 4-35 on wheat in Childress and Baylor Counties. (Boring, Oct. 17). OKLAHOMA - Averaged 5-15 per linear row foot on small grain in Ellis County. Light to moderate in Cleveland and several southwestern counties. (Okla. Coop. Sur.). KANSAS - Trace in most wheat in Wilson, Woodson, Allen, Anderson, Jackson, Doniphan, Brown, and Nemaha Counties. Parasites light in few wheatfields in northeast areas. (Simpson). NEBRASKA - Occasionally found behind sorghum leaf sheaths near David City, Butler County. (Keith, Skinner).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WISCONSIN - Averaged 1 per 2 sweeps in Marquette County alfalfa; egg production underway. (Wis. Ins. Sur.). ARKANSAS - Decreased in northwest area. Counts per 100 sweeps: 1,000-1,500 two weeks ago, zero this period. (Boyer).

TOBACCO HORNWORM (Manduca sexta) - TENNESSEE - Minor damage to late tomatoes in Davidson County. (Bogard).

CORN, SORGHUM, SUGARCANE

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - KANSAS - Infestations ranged 4-20 percent in corn in Wilson County. (Simpson).

SMALL GRAINS

FALL ARMYWORM (Spodoptera frugiperda) - TEXAS - Damage moderate to heavy to wheat and oats in Rolling Plains area. Damage medium to heavy on oats and small grains in widespread areas of Comal, Caldwell, and McCulloch Counties. (Boring, Oct. 17). OKLAHOMA - Moderate to heavy in southwestern counties and light in small grain in northwest. Moth flights heavy in west-central counties. (Okla. Coop. Sur.).

A SPIDER MITE (Schizotetranychus oryzae) - TEXAS - Localized and light on rice near Edna, Jackson County. Determined by E.W. Baker. (Boling, Oct. 17).

TURF, PASTURES, RANGELAND

A FLEA BEETLE (Chaetocnema opacula) - OREGON - Adults collected in Marion bluegrass sample at Central Point, Josephine County, September 23, 1969, by J. McLoughlin, This is a new State record. Determined by L.G. Gentner. (McLoughlin, Every).

FORAGE LEGUMES

A WALSHIID MOTH (Walshia miscecolorella) - NEBRASKA - Taken in field 1.5 miles south of Beatrice in Gage County on October 14; most roots infested. (Manglitz, Gorz). Several larvae collected October 22 about 2 miles east and 10 miles north of Schuyler in Colfax County. Also taken in Dodge County from roadside sweetclover, 1 mile west and 4 miles north of North Bend. (Stevens). These are new county records. (Keith). OKLAHOMA - Larvae collected October 14-16 in Garvin, Carter, Love, Jefferson, Grady, Canadian, McClain, Kay, Noble, Payne, Kingfisher, and Garfield Counties on sweetclover. (Okla. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Larvae per 100 sweeps of alfalfa: 80-140 at Yuma, Yuma County; 80 in 5 fields on west side of Salt River Valley, Maricopa County. (Ariz. Coop. Sur.). NEW MEXICO - Larvae light on alfalfa in Dona Ana County; many adults in flight. Alfalfa dormant. (N.M. Coop. Rpt.). ARKANSAS - Early instars ranged 15-20 per 100 sweeps in alfalfa in northwest area. (Boyer).

ALFALFA WEEVIL (Hypera postica) - VIRGINIA - Larvae and adults light on forage in Roanoke County. (Innes, Oct. 15). ARKANSAS - Survey negative in northwest area forage. (Boyer).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - WEST VIRGINIA - Adults 4 per 100 sweeps of alfalfa in Mason County. (W. Va. Ins. Sur.).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - WEST VIRGINIA - Adults 7 per 100 sweeps of alfalfa in Mason County. (W. Va. Ins. Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - WEST VIRGINIA - Adults per 100 sweeps: 17 on alfalfa in Mason County and 16 on red clover in Putnam County. (W. Va. Ins. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - WEST VIRGINIA - Adults per 100 sweeps: 18 on alfalfa in Mason County and 4 on clover in Putnam County. (W. Va. Ins. Sur.). ARKANSAS - Adults 10-12 per 100 sweeps in alfalfa in northwest areas. (Boyer). ARIZONA - Lygus spp. per 100 sweeps of alfalfa averaged as follows: 90 at Yuma, Yuma County; 500 (mostly adults) in Citrus Valley, Maricopa County. (Ariz. Coop. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Counts per 100 sweeps of alfalfa: 120-420 at Yuma, Yuma County; averaged 200 in Citrus Valley, Maricopa County. (Ariz. Coop. Sur.).

RED-LEGGED GRASSHOPPER (Melanoplus femurrubrum) - WEST VIRGINIA - Adults per 100 sweeps: 3 in alfalfa in Mason County and 7 in red clover in Putnam County. (W. Va. Ins. Sur.).

PEA APHID (Acyrthosiphon pisum) - NEW MEXICO - Light on alfalfa in Dona Ana, Luna, and Hidalgo Counties. (Campbell, Riddle).

COTTON

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Continues heavy throughout State, especially in areas of second growth with squares and blooms. Many recently emerged weevils may not feed successfully to enter diapause; may not survive winter. Live counts in fields on October 16 in Shelby, Talladega, and St. Clair Counties averaged 27,000 per acre; averaged about 1,000,000 per acre 15 days earlier. (Barwood et al.).

BOLLWORMS (Heliothis spp.) - ALABAMA - Larvae continue heavy in all cotton examined in central and northern areas where stalks alive. (McQueen). OKLAHOMA - H. zea larvae heavy in Jackson County cotton. (Okla. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - NEW MEXICO - Appearing in southern Dona Ana County. Light to medium in Pecos Valley. (N.M. Coop. Rpt.).

COTTON APHID (Aphis gossypii) - ALABAMA - Unusually heavy buildup on cotton leaves and squares in regrowth cotton following recent rains and use of defoliants. Honeydew falling on unharvested cotton lint, sooty mold developing and may lower quality in much cotton yet to be harvested. (Barwood, et al.).

SUGARBEETS

BEET ARMYWORM (*Spodoptera exigua*) - ARIZONA - New crop seedlings required up to 3 applications of insecticides to assure an even stand. Larvae very destructive to tender sugarbeet plants in some areas of Salt River Valley, Maricopa County. (Ariz. Coop. Sur.).

SUGAR-BEET ROOT MAGGOT (*Tetanops myopaeformis*) - IDAHO - Larvae recovered at American Falls, Power County, August 8; Aberdeen, Bingham County, August 10; and Wendell, Gooding County, August 7. Identified by G. Steyskal. (Sutherland, Portman).

DECIDUOUS FRUITS AND NUTS

WOOLLY APPLE APHID (*Eriosoma lanigerum*) - OREGON - Heavier than usual for time of year on Marion County apples. (Rasmussen).

OLETHREUTID MOTHS (*Laspeyresia* spp.) - ALABAMA - Quality loss due to *L. caryana* (hickory shuckworm) evident in fallen ripe pecans from unsprayed trees in southern and central counties. Larvae 1-3 per shuck on most nuts in 10-15 counties. Heavy in shucks of many hickory nuts. (Linder et al.). OKLAHOMA - *L. caryana* heavy in Mayes County pecans. (Okla. Coop. Sur.). CALIFORNIA - *L. pomonella* (codling moth) medium in walnuts at Simi, Ventura County. (Cal. Coop. Rpt.).

PECAN NUT CASEBEARER (*Acrobasis caryae*) - NEW MEXICO - Larvae entering large pecans at Carlsbad, Eddy County. (Marek et al.).

FALL WEBWORM (*Hyphantria cunea*) - NEW MEXICO - Larvae defoliated some Dona Ana County pecans. (Hare).

CERAMBYCID BEETLES (*Oncideres* spp.) - TENNESSEE - Adult damage heavy to cherry and pecan trees in Hardeman County. (Locke). OKLAHOMA - *O. cingulata* (twig girdler) heavier than usual on pecan trees in eastern areas. Heavy in Payne, Kay, Mayes, and Cleveland Counties. (Okla. Coop. Sur.).

PECAN WEEVIL (*Curculio caryae*) - ALABAMA - Damage by larvae emerging from nuts on unsprayed pecans appearing in Covington County. Established farther south than in past years. (Linder et al.). OKLAHOMA - Heavy in Mayes County pecans. Adults in Payne County. (Okla. Coop. Sur.).

CITRUS

Citrus Insect Situation in Florida - Mid-October - CITRUS RUST MITE (*Phyllocoptruta oleivora*) infested 79 (norm 67) percent of groves; economic in 58 (norm 41) percent. Population decreased but still above normal and in high range. Although decrease expected in number of groves infested, some groves now harboring mites will show further buildup. Infestations will be similar on leaves and fruit. Highest districts west, south, and north. TEXAS CITRUS MITE (*Eutetranychus banksi*) in 18 (norm 18) percent of groves; economic in 5 (norm 4) percent. Population normal and low; gradual increase expected. Highest district central. CITRUS RED MITE (*Panonychus citri*) in 28 (norm 23) percent of groves; economic in 7 (norm 5) percent. Slightly more abundant than normal for October. Increase expected; scattered groves may develop important infestations. Highest districts west and south. GLOVER SCALE (*Lepidosaphes gloverii*) in 58 (norm 56) percent of groves; economic in 5 (norm 7) percent. Near normal and at low to moderate level. Gradual increase expected. Highest district north. PURPLE SCALE (*L. beckii*) in 53 (norm 53) percent of groves; economic in 6 (norm 2) percent. Increased but expected to remain near normal and in low range. Highest district north. CHAFF SCALE (*Parlatoria pergandii*) in 31 (norm 37) percent of groves; economic in 3 (norm 2) percent. Will remain near normal and at low level in all districts. YELLOW SCALE (*Aonidiella citrina*) in 48 (norm 52) percent of groves; economic in 5 (norm 6) percent. Near normal and moderate with slight upward trend. Scattered heavy infestations may be expected on young trees. Highest district north. BLACK SCALE (Saissetia oleae) in 51 (norm 35) percent of groves; economic in 23 (norm 13) percent. Decreased in all districts, but still above normal. Heavy in few groves. Further decrease predicted. Highest districts central and west. An ARMORED SCALE (Unaspis citri) infested 20 percent of groves; moderate to heavy in 8 percent. Activity and population will continue at present levels. WHITEFLIES in 78 percent of groves; moderate to heavy in 27 percent. Larvae and adults at highest October levels in 18 years of record. Larvae will increase and continue in high range. High population may result in abundant sooty mold which is not likely to damage citrus with adequate rainfall. Highest districts north, west, and central. (W.A. Simanton (Citrus Expt. Sta., Lake Alfred)).

OTHER TROP. & SUBTROP. FRUITS

A SOFT SCALE (Coccus mangiferae) - FLORIDA - All stages severe on all 28 nursery mango plants inspected at Clermont, Lake County (Henderson, Oct. 17); all stages infested 10 percent of 2,000 mango plants in nursery at Miami, Dade County (McHenry).

FOREST AND SHADE TREES

PINE WEBWORM (Tetralopha robustella) - TENNESSEE - Severely damaged, 8 percent kill, loblolly pine seedlings in Blount County. (Heinrichs).

BAGWORM (Thyridopteryx ephemeraeformis) - WEST VIRGINIA - Heavy on 3-4 acres of white pine in Wirt County. (W. Va. Ins. Sur.). IOWA - Collected October 22 at Primghar, O'Brien County, for a new county record. (Iowa Ins. Sur.).

A BARK BEETLE (Phloeosinus cristatus) - ARIZONA - Damaged 30 percent of branches on Arizona cypress trees at Tucson, Pima County. (Ariz. Coop. Sur.).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - VIRGINIA - Late instars damaged pines in Alleghany County. (Copenhaver).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Heavy on elms, cottonwoods, and poplars in the Pecos and Mesilla Valleys. Completely defoliated some trees. (Hare et al.).

MAN AND ANIMALS

SCREW-WORM (Cochliomyia hominivorax) - One case reported in U.S. October 19-25 as follows: CALIFORNIA - San Diego County. Total of 286 laboratory-confirmed cases reported in portion of Barrier Zone in Republic of Mexico October 12-18 as follows: Sonora 90, Chihuahua 159, Coahuila 23, Nuevo Leon 5, Tamaulipas 9. Total of 25 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent establishment of self-sustaining population in U.S. Sterile screw-worm flies released: Texas 27,678,000; Arizona 2,800,000; Mexico 102,910,000. (Anim. Health Div.).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Averaged 750 per head on 93 Yazoo County cattle. (Sartor). OKLAHOMA - Averaged less than 25 per head of cattle in Payne County and about 30 on yearlings in Pawnee County. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged less than 2 per head on Payne County beef cattle. (Okla. Coop. Sur.).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Grubs ranged 2-5 per back of cattle in Payne, Washington, and Osage Counties. (Okla. Coop. Sur.).

BROWN RECLUSE SPIDER (Loxosceles reclusa) - MISSOURI - Collected in Adair, Barton, and McDonald Counties for new county records. (Munson). OKLAHOMA - Reported from several central counties. One person bitten in Payne County. (Okla. Coop. Sur.).

BLACK-LEGGED TICK (*Ixodes scapularis*) - OKLAHOMA - Several hundred collected from each road-killed deer in McCurtain County. (Okla. Coop. Sur.).

STORED PRODUCTS

GRAIN BEETLES - IDAHO - *Oryzaephilus surinamensis* (saw-toothed grain beetle) and *Tribolium castaneum* (red flour beetle) infested 120,000 bushels of 1-year-old barley at Rigby, Jefferson County. (Gooch).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CITRUS BLACKFLY (*Aleurocanthus woglumi*) - MEXICO - Biological Control Zone - Infested 182 of 23,211 trees inspected in municipios Hidalgo and Victoria, Tamaulipas. Chemical Control Zone - Infested 2,457 of 33,578 trees in 5 municipios of Nuevo Leon. New infestations of 2,343 trees in municipios Montemorelos and Hualahuises. (PPC Mex. Reg., Sept.).

EUROPEAN CRANE FLY (*Tipula paludosa*) - WASHINGTON - Adults collected in light trap at Mount Vernon, Skagit County, September 24. Determined by M.T. James; confirmed by A. Stone. This is a new county record. (Eide, James).

GYPSY MOTH (*Porthetria dispar*) - VIRGINIA - Single male trapped on Loft Mountain Picnic Area and trailer park in Shenandoah National Park, Albemarle County. Collected by M.M. Poyner, October 9, 1969. Determined by E.L. Todd. This is a new State record. (Russell). MICHIGAN - Considered eradicated in State after 3 years of negative surveys. (PPC Cent. Reg., Sept.).

JAPANESE BEETLE (*Popillia japonica*) - WEST VIRGINIA - Larvae averaged 30 per square foot of sod in Kanawha County week ending October 18. (W. Va. Ins. Sur.).

MEXICAN FRUIT FLY (*Anastrepha ludens*) - MEXICO - Additional male caught for total of 9 native flies trapped this season at Tijuana, Baja California. Sterile flies averaged 7.6 per trap. (PPC Mex. Reg., Sept.).

PINK BOLLWORM (*Pectinophora gossypiella*) - CALIFORNIA - Sterile releases October 10-24: Borrego Springs 117,000; Kern County 362,300. (PPC). NEVADA - Catch October 18 of 18 native males and 1 sterile male in hexalure traps in Moapa Valley, Clark County. (Nev. Coop. Rpt.). NEW MEXICO - Still building up on late cotton in Chaves, Eddy, and Dona Ana Counties. (N.M. Coop. Rpt.). Light in bolls in Luna, Hidalgo, and Grant Counties. (Campbell, Riddle). TEXAS - Catch of 43 in blacklight trap at Waco, McLennan County. (Ent. Res. Div.). MEXICO - Sanidad Vegetal reports moth catch to date by municipio: Caborca 355 and Hermosillo 245. (PPC Mex. Reg., Sept.).

WHITE-FRINGED BEETLES (*Graphognathus* spp.) - TENNESSEE - Small extension of known infestation in Bradley County. Sizeable infestation in Lawrence County. (Gordon).

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville, 10/20-23, BL - Armyworm (*Pseudaletia unipuncta*) 3, beet armyworm (*Spodoptera exigua*) 2, black cutworm (*Agrotis ipsilon*) 2, fall armyworm (*S. frugiperda*) 6, granulate cutworm (*Feltia subterranea*) 13, yellow-striped armyworm (*Prodenia ornithogalli*) 1. MISSISSIPPI - Stoneville, 10/18-24, 2BL Armyworm 32, beet armyworm 309, black cutworm 18, cabbage looper (*Trichoplusia ni*) 2, corn earworm (*Heliothis zea*) 33, fall armyworm 32, granulate cutworm 15, yellow-striped armyworm 2. MISSOURI - Fair Grove, 10/16-22 - Armyworm 123, black cutworm 24, corn earworm 33, fall armyworm 14. Kansas City, 10/16-22 - Armyworm 50, black cutworm 8, corn earworm 43, fall armyworm 7. TEXAS - Waco, 10/18-24, BL - Armyworm 321, beet armyworm 166, black cutworm 6, cabbage looper 13, corn earworm 62, fall armyworm 153, granulate cutworm 139, tobacco budworm (*H. virescens*) 1, variegated cutworm (*Peridroma saucia*) 136, yellow-striped armyworm 13. WISCONSIN - Madison, 10/17-23, BL - Armyworm 5, black cutworm 10, fall armyworm 1, variegated cutworm 6.

HAWAII INSECT REPORT

General Vegetables - CABBAGE WEBWORM (Hellula rogatalis) larvae generally trace in fields of mustard cabbage and daikon; light in small section of ready-to-harvest daikon at Koko Head, Oahu. Previously reported difficult to control despite regular spray program. All stages of GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) heavy in 0.25 acre of eggplants and 0.5 acre of tomatoes at Waianae, Oahu. (Kawamura). LEAF MINER FLIES (Liriomyza spp.) generally trace to light in plantings of green onions at Waianae; medium to heavy in 0.25 acre of yardlongbeans at Pearl City. Light in 5 acres of tomatoes at Waiakoa, Maui. (Kawamura, Miyahira). All stages of GREEN PEACH APHID (Myzus persicae) light in 0.25 acre of mature eggplants at Pearl City, Oahu; trace in adjoining 0.25 acre of 60-day-old eggplants. Light to medium in 5,000 square feet of bell peppers. CORN EARWORM (Heliothis zea) light on same bell pepper planting; infested about 5 percent of fruits. (Kawamura).

Fruits - COCONUT SCALE (Aspidiotus destructor) generally light in 21 stools of banana trees; large colonies on several older leaves of some plants at Pearl City. Papaya in adjacent plot uninfested. (Funasaki). HIBISCUS LEAF MINER (Parectopa hibiscella) larvae medium in 2 acres of hau (Hibiscus tiliaceus) at Lawai Valley, Kauai. (Sugawa). All stages of GREEN SCALE (Coccus viridis) light on tipu trees (Tipuana sp.) at Momilani, Oahu. (Narahara).

Forest and Shade Trees - As many as 7 larvae of a NOCTUID MOTH (Melipotis indomita) under one bark stripping of older kiawe trees (Prosopis pallida) at Keawakapu, Maui. (Miyahira, Funasaki). Recorded in Kansas, Colorado, Utah, Nevada, California, Arizona, New Mexico, Texas, and south into Mexico and Guatemala. Recorded on honey mesquite (P. glandulosa). See correction below. (PPC).

Beneficial Insects - Larvae, pupae, and adults of a LADY BEETLE (Coccinella septempunctata brucki) heavy on cucumbers infested with Aphis gossypii (melon aphid) at Halawa, Oahu. Larvae and pupae heavy on weeds in this field. First report of recovery and establishment. Introduced from Naha, Okinawa, in June 1968 to aid control of various aphids. (Funasaki, Au).

DETECTION

New State Records - GYPSY MOTH (Porthetria dispar) VIRGINIA - Albemarle County (p. 817). A FLEA BEETLE (Chaetocnema opacula) OREGON - Josephine County. (p. 813).

New County Records - BAGWORM (Thyridopteryx ephemeraeformis) IOWA - O'Brien (p. 816). BROWN RECLUSE SPIDER (Loxosceles reclusa) OKLAHOMA - Adair, Barton, McDonald (p. 816). EUROPEAN CRANE FLY (Tipula paludosa) WASHINGTON - Skagit (p. 817). A WALSHIID MOTH (Walshia miscecolorella) NEBRASKA - Colfax, Dodge, Gage (p. 813).

CORRECTIONS

CEIR 19(30):584 - A NOCTUID MOTH (Melipotis indomita) - Delete distribution and host information on lines 6 to 8 of note. See Hawaii Insect Report on this page and CEIR 19(40):768.

CEIR 19(43):803 - INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES - CLOUDED PEACH BARK APHID (Pterochlorus persicae) - No. 183 of Series should read No. 184 of Series.

GYPSY MOTH
(Porthetria dispar (L.))

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Prepared in Plant Pest
Control Division

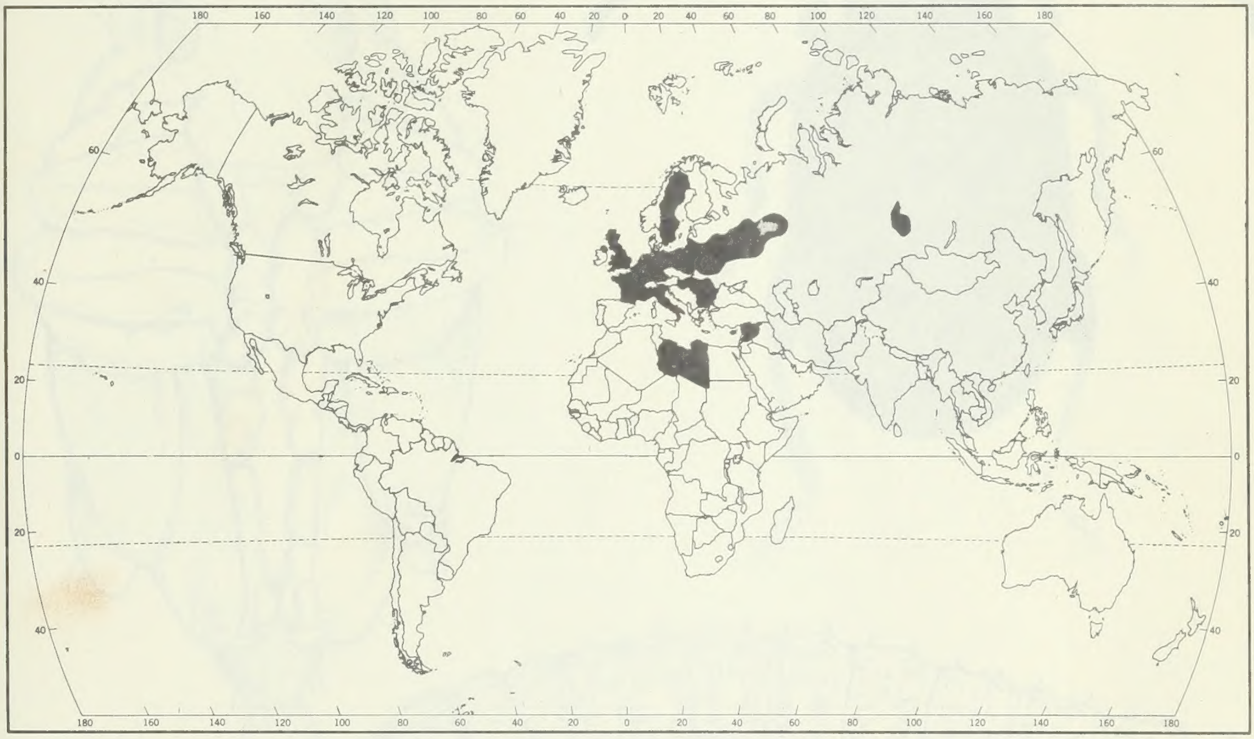
U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
19(44):819-820, 1969

LARGE FLAX FLEA BEETLE (Aphthona euphorbiae (Schrank))

Economic Importance: This chrysomelid beetle, one of the major pests of flax in Europe, often causes sufficient damage to require replanting. Adults feed on the tender parts of the plant above ground, leaving scalloped edges or holes in the leaves. Overwintered adults may enter cracks in the ground to feed on seedlings and cotyledons often killing them. New adults feed on shoot tips, blossoms, and seed clusters, whereas larvae feed on the parts below the ground. The latter gnaw shallow grooves on the tap root or tunnel through the lateral roots.

Distribution: Belgium, Bulgaria, Cyprus, France, Germany, Great Britain, Hungary, Italy, Libya, Netherlands, Poland, Rumania, Sweden, Syria, and USSR (European portion and far eastern areas).

Hosts: Beets, Canada thistle, Euphorbiaceae, flax (Linum usitatissimum and Linum spp.), plum, and mustards. The species is polyphagous, but appears to reach sexual maturity only on flax.

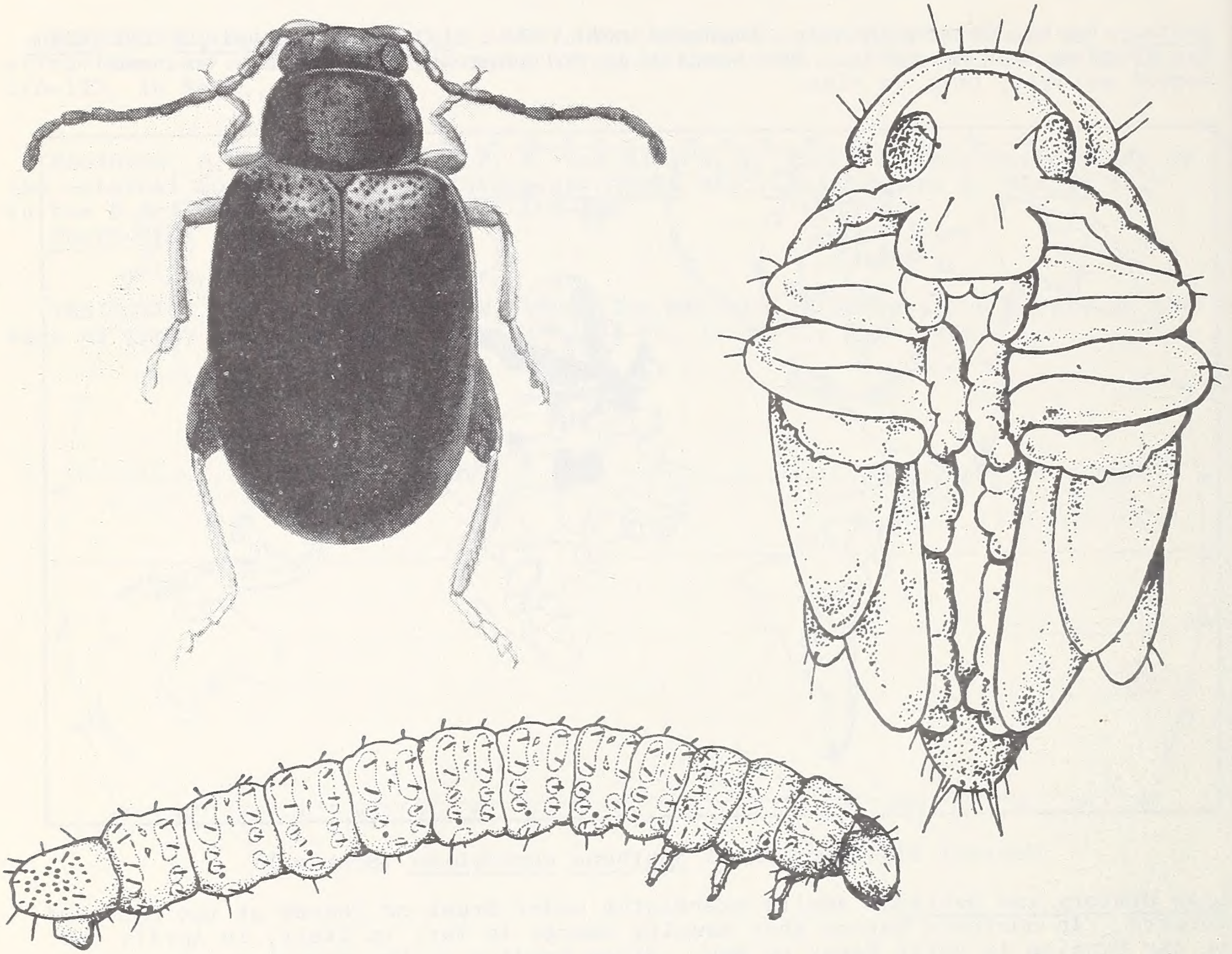


General Distribution of Aphthona euphorbiae (Schrank))

Life History and Habits: Adults overwinter under brush or leaves at the edges of forests. In northern Europe they usually emerge in May; in Italy, in April; and in the Ukraine in early March or May. After feeding on the seedlings of various plants, the overwintered adults shift to flax when this host germinates. Mating and egg laying take place shortly thereafter. The female lays a few eggs on or near the flax roots, and averages 300 eggs over a 2-week period. Eggs hatch in 10-22 days or less depending on the weather. Larvae feed on the roots for 26-30 days. Pupation occurs in a small cell built in the soil. Adults emerge about 9 days later at the end of June or the first half of July. They feed until August or September or until the flax is harvested, whereupon they enter hibernation. There is only one generation a year. Although this pest thrives under warm, moist conditions, it can withstand low temperatures if the humidity is high, and high temperatures if the humidity is low.

Coleoptera: Chrysomelidae

Description: ADULT - Length 1.7-2.4 mm, elongate oval. Body shining dark brown to black, often faintly bluish. Appendages light tan except for dark brown, enlarged hind femora and brown apical half of antennae. First segment of antennae shorter than distance between antennae. Antennae over half as long as body, pubescent. Pronotum and elytra punctate, elytral punctures not arranged in rows and pronotum without transverse furrow. EGG - Length 0.4 mm, oval. Surface irregularly reticulate. Translucent yellowish white, but becomes dark gray with development. LARVA - Newly hatched length 1-2 mm. Body light yellow, head capsule and anal plate yellowish brown-gray. Fully grown length 3.86-4.20 mm. Body yellowish white (dirty white), head capsule light chestnut brown, heavily sclerotized. PUPA - Length 1.8-2.5 mm, milkish white. Hairs of last abdominal segments brown, lateral side hairs of body yellowish brown.



Adult, pupa, and larva of *Aphthona euphorbiae* (Schrank)

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Prepared in Survey and Detection
Operations in cooperation with
other ARS agencies

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
19(44):821-822, 1969

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